

In the decade following the publication of Lea's work the differentiation of the Tertiary was extended to other regions and the Eocene became generally recognized as distinct from the later Tertiary strata. In North Carolina the beds at Wilmington early received attention, while exposures along the Trent and Northeast Cape Fear rivers were mentioned.

It remained for Lyell, who had named and described the Tertiary divisions of Europe, to definitely determine the presence of similar strata in North Carolina. While in this country he visited many fossil localities in the State, and at Wilmington recognized the presence of deposits of both Eocene and Miocene age.³

Since Lyell's time there has never been any question regarding the presence of Eocene and Miocene strata in North Carolina, and early claims regarding the existence of Pliocene deposits have been substantiated by the later work of Dall. Emmons, in his geological report, published in 1858, and Kerr, in his report published in 1875, made important contributions to the knowledge of the Tertiary deposits of the State, summarizing the results of previous investigations. Clark, Stanton, Holmes, and others have described in later years many local sections in much detail.

Heilprin,⁴ in 1883, proposed the name "Carolinian" for the Miocene deposits of the Carolinas, regarding them younger in age than the Miocene deposits of Virginia and Maryland, which he proposed to call "Virginian" and "Marylandian."

In 1890, Dall began the publication of his elaborate monographic study of the Tertiary fauna of Florida, in which he included descriptions of all of the known Tertiary fossils of the Atlantic Coastal Plain. In these studies, extending over a period of 13 years, he recognized the fact that the Miocene was capable of subdivision, and also clearly differentiated the Pliocene, regarding which much doubt had been expressed by others. No detailed study of the stratigraphy of the North Carolina Tertiary deposits had been made, however, up to the time that the United States Geological Survey, in coöperation with the North Carolina Geological and Economic Survey, began the present investigations in 1905, and no general article based on detailed stratigraphic work has thus far been published.

DIVISIONS.

The Atlantic Coastal Plain, as well as the Gulf Coastal Plain, has been found, on careful study, to be far less simple than it was formerly

³Travels in North America, etc. New York, 1845.

⁴Proc. Phila. Acad. Nat. Sci., vol. 24, 1883, pp. 150-186.